AMENDMENTS TO THE CLAIMS

Please enter the following amendments:

1 – 3. (Canceled)

4. (Currently Amended) The fuel cell system in accordance with claim [[1]] 5, further comprising means for changing the internal diameter of an outlet-side flow path of an exhaust gas from said fuel cell at least in stages, and means for changing said internal diameter at least in stages based on the values of Pa and Pc during the purge operation of said fuel cell.

5. (Currently Amended) ~~The fuel cell system in accordance with claim 1, further comprising a controller configured to~~

A fuel cell system comprising:

a fuel cell comprising an anode, a cathode, an inlet-side flow path leading to the anode, and an inlet-side flow path leading to the cathode;

fuel gas supply means for supplying a fuel gas to the anode;

oxidant gas supply means for supplying an oxidant gas to the cathode;

inert gas supply means for supplying an inert gas to the anode and/or cathode;

means for measuring a pressure Pa in the inlet-side flow path leading to the anode and a pressure Pc in the inlet-side flow path leading to the cathode; and

a controller configured to:

variably control the flow rate of the inert gas supplied to said fuel cell based on the values of Pa and Pc during a purge operation of replacing the fuel gas and/or oxidant gas in

said fuel cell with the inert gas supplied from said inert gas supply means when said fuel cell is started up or shut down, such that the relation $0 < \Delta Po \times \Delta Pp$ is always satisfied and the relation $|\Delta Pp| \leq |\Delta Po|$ is satisfied, where a differential pressure ΔP is defined as $\Delta P = Pa - Pc$, ΔPo is the differential pressure during operation, and ΔPp is the differential pressure during the purge operation;

perform the purge operation for shutting down said fuel cell by: comparing the pressure Pa in the inlet-side flow path leading to the anode and the pressure Pc in the inlet-side flow path leading to the cathode; increasing in stages the flow rate of the inert gas supplied to one of the inlet-side flow paths, the one having a larger pressure; and then increasing in stages the flow rate of the inert gas supplied to the other one of the inlet-side flow paths, the one having a smaller pressure; and

terminate the purge operation by: closing the communication between the inlet-side flow path having a smaller pressure and a flow path for supplying the inert gas; and then closing the communication between the inlet-side flow path having a larger pressure and the flow path for supplying the inert gas.

6. (Currently Amended) ~~The fuel cell system in accordance with claim 1, further comprising a controller configured to~~

A fuel cell system comprising:

a fuel cell comprising an anode, a cathode, an inlet-side flow path leading to the anode, and an inlet-side flow path leading to the cathode;

fuel gas supply means for supplying a fuel gas to the anode;

oxidant gas supply means for supplying an oxidant gas to the cathode;

inert gas supply means for supplying an inert gas to the anode and/or cathode;

means for measuring a pressure Pa in the inlet-side flow path leading to the anode and a pressure Pc in the inlet-side flow path leading to the cathode; and

a controller configured to:

variably control the flow rate of the inert gas supplied to said fuel cell based on the values of Pa and Pc during a purge operation of replacing the fuel gas and/or oxidant gas in said fuel cell with the inert gas supplied from said inert gas supply means when said fuel cell is started up or shut down, such that the relation $0 < \Delta Po \times \Delta Pp$ is always satisfied and the relation $|\Delta Pp| \leq |\Delta Po|$ is satisfied, where a differential pressure ΔP is defined as $\Delta P = Pa - Pc$, ΔPo is the differential pressure during operation, and ΔPp is the differential pressure during the purge operation;

perform the purge operation for starting up said fuel cell by: comparing the pressure Pa in the inlet-side flow path leading to the anode and the pressure Pc in the inlet-side flow path leading to the cathode; increasing in stages the flow rate of the inert gas supplied to one of the inlet-side flow paths, the one having a larger pressure; and then increasing in stages the flow rate of the inert gas supplied to the other one of the inlet-side flow paths, the one having a smaller pressure; and

terminate the purge operation by: closing the communication between the inlet-side flow path having a smaller pressure and a flow path for supplying the inert gas; and then closing the communication between the inlet-side flow path having a larger pressure and the flow path for supplying the inert gas.